Paper No. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KAZUSUKE YAMANAKA, TOMOO YAMAMOTO, YUZURU HOSOE, NOBUYUKI INABA, YASUTARO UESAKA, MASAAKI FUTAMOTO, YOSHIBUMI MATSUDA, KENJI FURUSAWA, and SHINJI NARISHIGE

Appeal No. 1998-2494
Application No. 08/521,363

HEARD: NOVEMBER 30, 2000

Before BARRETT, DIXON, and BLANKENSHIP, Administrative Patent Judges.

BLANKENSHIP, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1-17, which are all the claims in the application.

We reverse.

BACKGROUND

The invention is directed to a magnetic recording medium for high-density recording and a magnetic recording and reproducing apparatus. Claim 1 is reproduced below.

> 1. A magnetic recording medium using a ferromagnetic thin film as a magnetic layer whose fluctuation field of magnetic viscosity at the field strength equal to remanence coercivity or coercivity is not less than 15 oersteds.

The examiner relies on the following references:

Murayama et al. (Murayama)	5,478,661	Dec. 26, 1995 (filed Apr. 1, 1993)
Gill et al. (Gill)	5,492,720	Feb. 20, 1996 (effective filing date Aug. 15, 1994)

Claims 1-7 and 11-17 stand rejected under 35 U.S.C. § 102 as being anticipated by Murayama.

Claims 8-10 stand rejected under 35 U.S.C. § 103 as being unpatentable over Murayama in view of Gill.

We refer to the Final Rejection (Paper No. 7) and the Examiner's Answer (Paper No. 14) for a statement of the examiner's position and to the Brief (Paper No. 13) and the Reply Brief (Paper No. 15) for appellants' position with respect to the claims which stand rejected. An earlier section 102 rejection over U.S. patent 5,480,733 (Okumura et al.) has been withdrawn by the examiner. (See Answer, page 2.)

OPINION

Appellants' independent claims (1-3) are each directed to a magnetic recording medium using a ferromagnetic thin film as a magnetic layer. The claims recite that the "fluctuation field of magnetic viscosity" at the field strength equal to "remanence coercivity or coercivity" is "not less than" a certain number of oersteds. Appellants' specification refers to two prior art publications for the meaning and background of "fluctuation field of magnetic viscosity" (see specification, page 2), and describes how the measurement of "fluctuation field" is to be performed (see id. at pages 6-7).

"Anticipation is established only when a single prior art reference discloses, expressly or under principles of inherency, each and every element of a claimed invention." RCA Corp. v. Applied Digital Data Sys., Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984). The section 102 rejection over Murayama is based on the examiner's finding that the reference discloses materials which are inherently within the scope of the claims. The finding of inherency is based in turn on the finding that Murayama discloses magnetic layers of composition similar to those disclosed by appellants, and additionally discloses magnetic recording media having coercivities of over 2000 oersteds. (See Answer, page 3.)

Appellants' position, as stated on pages 11 and 12 of the Brief, is that the fluctuation field of the ferromagnetic thin film is dependent on factors in addition to

chromium (Cr) content of the thin film and coercivity of the media. In particular, as set out in the Reply Brief, the fluctuation field is dependent in part on the thickness of the ferromagnetic thin film, and the films disclosed by Murayama are substantially thicker than those disclosed by appellants.

If a prima facie case of anticipation is established, the burden shifts to an applicant to show that the prior art structure did not inherently possess the functionally defined limitations of the claimed apparatus. See In re Schreiber, 128 F.3d 1473, 1478, 44 USPQ2d 1429, 1432 (Fed. Cir. 1997); In re King, 801 F.2d 1324, 1327, 231 USPQ 136, 138-39 (Fed. Cir. 1986); In re Best, 562 F.2d 1252, 1254-55, 195 USPQ 430, 433 (CCPA 1976); In re Ludtke, 441 F.2d 660, 664, 169 USPQ 563, 566-67 (CCPA 1971). However, we conclude, after careful review of the record, that the rejection does not establish a prima facie case of anticipation.[1]

We recognize that the recitation of inherent properties cannot patentably distinguish a claim over the prior art. See, e.g., Schreiber, 128 F.3d at 1478-79, 44 USPQ2d at 1432-33 (functional recitations held not to distinguish claimed apparatus from prior art apparatus inherently possessing same properties); Verdegaal Bros., Inc. v. Union Oil Co.,

[1]We note that appellants submitted extrinsic evidence, in the form of a technical publication, with the Reply Brief. The evidence should have been evaluated on the record by the examiner. However, we will not remand the case for the examiner's evaluation of the publication and arguments presented. We have not considered the publication, nor the arguments related thereto in the Reply Brief. The submission of the publication was unnecessary in view of our conclusion that the rejection fails to establish a prima facie case of anticipation.

814 F.2d 628, 633, 2 USPQ2d 1051, 1054 (Fed. Cir. 1987)(disclosed process held to anticipate claimed invention, even if inventor of disclosed process did not recognize inherent property). However, our reviewing court has set out clear standards for establishing inherency.

> To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." "Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient."

In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999)(citations omitted).

We can conclude from appellants' specification that there is some degree of unpredictability in the expectation of measured fluctuation field, and counsel for appellants stressed this unpredictability at the oral hearing. As shown in Table 2 (specification, page 11), a magnetic film composed of $CoCr_{20}Pt_8$ within the scope of claim 1 (fluctuation field not less than 15 oersteds) corresponded to a media coercivity of 2654 oersteds. Yet, a magnetic film of the same composition in the same table but outside the scope of claim 1 -- with a fluctuation field of 14.9 oersteds -- corresponded to a media coercivity of 2756 oersteds, higher than that associated with the material within the scope of claim 1.

On the other hand, we might conclude from Table 1 (specification, page 9) that an increase in coercivity of the media corresponds in general to an increase in fluctuation field

of a magnetic layer composed of $CoCr_{16}Ta_4$, and indeed that a media coercivity of more than 2280 oersteds would reasonably be expected to correspond to a fluctuation field of 15 or more oersteds. While the magnetic film composition may be similar to materials disclosed by Murayama, the magnetic film thickness was 25 nm in each case. As appellants suggest, the magnetic film thicknesses of what may be similar materials in the reference are disclosed as substantially more than 25 nm. See, for example, column 8, lines 39 through 46 and lines 53 through 63 of Murayama. A magnetic film thickness of 25 nm (250 D) is disclosed in one embodiment (see column 7, line 41 through column 8, line 37), but the Cr content is substantially less than in the materials disclosed by appellants. Here, we will not speculate with regard to what Murayama may have suggested to the artisan; the rejection is based upon anticipation rather than obviousness.

If Cr content of the magnetic layer and media coercivity determined fluctuation field of the magnetic layer, then we could reasonably conclude that materials disclosed by Murayama are within at least the scope of appellants' claim 1. However, we agree with appellants that factors other than Cr content and media coercivity contribute to fluctuation field of the magnetic layer, in view of the evidence before us. Claims 2 and 3 each set forth requirements for fluctuation field which are greater than the 15 oersteds required by claim 1. We therefore do not sustain the rejection of claims 1-3 over Murayama, nor the rejection of dependent claims 4-7 and 11-17.

Claims 8-10 stand rejected under 35 U.S.C. § 103 as being unpatentable over Murayama in view of Gill. Since each of dependent claims 8-10 contain at least the limitations of claim 1, and Gill does not remedy the deficiencies we find in Murayama, we do not sustain the rejection of claims 8-10.

CONCLUSION

The rejection of claims 1-17 is reversed.

REVERSED

LEE E. BARRETT Administrative Patent Judge	)))))) BOARD OF PATENT
JOSEPH L. DIXON Administrative Patent Judge	) APPEALS) AND) INTERFERENCES
HOWARD B. BLANKENSHIP Administrative Patent Judge	)))))

ANTONELLI TERRY STOUT AND KRAUS
SUITE 1800
1300 NORTH SEVENTEENTH STREET
ARLINGTON VA 22209